Exhibit 3.4.1.1-1

Wallula Power Project

Wildlife And Botanical Survey Report

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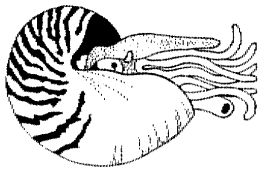

Wallula Power Project
Wildlife And Botanical Survey Report

1. Introduction

Wildlife and botanical surveys were conducted on lands that may be affected by the development of the proposed Wallula Power Project. The project is a 1,300 megawatt natural gas-fueled combustion turbine power plant to be located on the east side of U.S. Highway 12 in Wallula, Walla Walla County, Washington. The power plant would be constructed on land that is zoned industrial but currently used for irrigated agriculture. The project site is located adjacent to the Iowa Beef Processors, Incorporated slaughterhouse, the J.R. Simplot Company feedlot, and the Boise Cascade Corporation Wallula Mill. Project laterals include a natural gas pipeline, 500 kV electrical transmission line (not part of this Application), and a makeup water supply pipeline, to be located on industrial or agricultural lands to the south and east of the project site.

The power plant will occupy approximately 66 acres in the southeastern portion of the 175.48-acre project site (Figure 1). The project site is currently used for alfalfa farming, and includes areas of disturbed shrub-steppe habitat and man-made irrigation ponds. Preliminary design of the plant facilities specifies two sets of cooling towers, each with nine cells, the administration building, the turbine building, the water treating building, the warehouse, the auxiliary boiler building and exhaust stack, miscellaneous tanks and four heat recovery steam generator exhaust stacks. Construction access to the project site will be achieved through the widening and upgrading of an existing unimproved access road on the Jaussaud property to the south of the project site. A permanent access road will be located on agricultural land to the north of the project site.

Natural gas will be transported to the project site via an approximately 5.9-mile long, 20-inch diameter pipeline (Figure 1). The proposed natural gas pipeline will extend from the southeast corner of the project site, south along the eastern boundary of the Jaussaud property, southeast to the southeast corner of Section 3 of T7N, R31E, then south along the section line to the intersection with an existing farm road. From this point, the natural gas pipeline will extend east-southeast adjacent to the farm road to the tap point with the existing PG&E Gas Transmission-Northwest (GTN) natural gas pipeline, approximately one mile north of the Walla Walla River. The pipeline route crosses disturbed shrub-steppe habitat, hybrid poplar farms, and irrigated agricultural lands.

The proposed 500-kV electrical transmission line (Figure 1 and not part of this Application) will extend due east from the southeast corner of the plant site for a distance of approximately 1.6 miles, then south approximately 2.7 miles, then east 0.6 miles to the proposed interconnect location with the existing Bonneville Power Administration Lower Monumental to McNary line in Section 13 of T7N, R31E. The transmission line will pass through disturbed shrub-steppe habitat, hybrid poplar plantation, and irrigated agricultural lands.

The proposed makeup water supply pipeline will extend south from the southeast corner of the project site, then diagonally to the southeast corner of Section 3, T7N, R31E, and will continue south along the section line onto the Boise Cascade Corporation fiber farm. The makeup water supply pipeline will continue within the tree farm to link five existing wells in the southwest corner of Section 11, T7N, R31E and five existing wells in the eastern half of Section 14, T7N, R31E. The overall length of the makeup water supply pipeline is approximately 4.6 miles from the project site to the southernmost well site. The makeup water pipeline will share a right-of-way with the natural gas pipeline for approximately 1.7 miles through disturbed shrub-steppe habitat and hybrid poplar farm, then will continue independently for the remaining distance within the Boise Cascade Corporation fiber farm.

2. Background

Information on threatened and endangered species and other species and habitats with special management status was obtained from the U.S. Fish And Wildlife Service (USFWS 1996a, 1996b, 2000a, 2000b, 2000c), Washington Department Of Fish And Wildlife (WDFW 2000a, 2000b, and 2000c; 2001a, 2001b, 2001c, and 2001d). Washington Department of Natural Resources (WDNR 1999, 2000), Walla Walla County Weed Control Board (2001), and Denny (2000). Information on regional occurrence and management of these species was provided in Ackerman (1994), WDNR and Bureau Of Land Management (2000), USFWS (1996c), Washington Department Of Wildlife (WDW 1991, Larsen 1997, Larsen and Nordstrom 1999, and WDFW 2001e), Oregon Natural Heritage Program (1998), and the Federal Register (1999).

For purposes of this review, special status species were defined as all species federally listed as endangered or threatened, candidates for federal listing, and federal species of concern. At the state level, state wildlife species of concern were considered, including threatened, endangered, sensitive and candidate species. Selected wildlife species on the state monitor list, known to occur in the project vicinity, were also reviewed. Plants listed as federally endangered, threatened, candidate or species of concern, and those designated by the state as threatened, endangered, sensitive, and review status were evaluated. **Table 1 Special Status Plant And Animal Species In The Project Vicinity** lists the special status plant and animal species that are known or have the potential to occur in the project area.

Table 1
Special Status Plant And Animal Species In The Project Vicinity.
(H = Historic Records Only; Pre-1980.)

Common Name ***Scientific name***	**Federal Status**	**State Status**	**Habitat Requirements**	**Occurrence**	**Proposed Surveys**
Plants					
Beaked cryptantha *Cryptantha rostellata*		Sensitive	Coarse substrates along dry drainages in open grassland and shrub-steppe	Documented in Walla Walla County (H); may occur	June 2001 botanical survey
Bristly sedge *Carex comosa*		Sensitive	Marshes, lake shores, wet meadows	Documented in Walla Walla County (H); habitat lacking in project area; unlikely to occur	None proposed
Gray cryptantha *Cryptantha leucophaea*	Species of Concern	Sensitive	Unstabilized sandy soils and dunes along the Columbia River	Documented in project area near proposed natural gas pipeline	June 2001 botanical survey
Plumed clover *Trifolium plumosum var. plumosum*		Sensitive	Dry hillsides and meadowlands, Blue Mountains of Washington south to Oregon	Documented in Walla Walla County; project area outside of known range; unlikely to occur	None proposed
Prairie lupine *Lupinus cusickii*	Species of Concern	Review	Sagebrush steppe and grasslands	Documented in Walla Walla County (H); may occur	June 2001 botanical survey
Pulsifer's monkey flower *Mimulus pulsiferae*		Sensitive	Seasonally moist, seeps, springs and riparian areas	Documented in Walla Walla County (H); habitat lacking in project area; unlikely to occur	None proposed
Sabin's lupine *Lupinus sabinii*		Endangered	Low to mid-elevation coniferous forest and transitional grassland	Documented in Walla Walla County; habitat lacking in project area; unlikely to occur	None proposed
Snake Canyon desert-parsley *Lomatium serpentinum*		Sensitive	Open, often rocky slopes in and near Snake River Canyon	Documented in Walla Walla County (H); habitat lacking in project area; unlikely to occur	None proposed

Common Name ***Scientific name***	**Federal Status**	**State Status**	**Habitat Requirements**	**Occurrence**	**Proposed Surveys**
Washington monkey-flower *Mimulus washingtonensis*		Review	Moist sites, east Cascade Mountains	Documented in Walla Walla County (H); habitat lacking in project area; unlikely to occur	None proposed
Priority Habitats					
Shrub-Steppe		Priority	One or more layers of perennial grasses and a conspicuous but discontinuous layer of shrubs	Present in project area as small, fragmented parcels of disturbed habitat	June 2001 botanical survey
Birds					
Aleutian Canada goose *Branta canadensis leucopareia*	Threatened; proposed for delisting in February 2001	Threatened	Breeds in Aleutian Islands; winters in northern California and Central Valley	Documented occasional winter visitor at McNary NWR; occasional individuals in larger flocks of cackling Canada geese	Winter 2000-2001 bald eagle/avian surveys
American white pelican *Pelecanus erythrorhynchos*		Endangered	Freshwater shallows; islands in rivers and lakes free from human disturbance, predators, flooding and erosion	Documented breeder at McNary NWR	None proposed; no use of project area habitats
Bald eagle *Haliaeetus leucocephalus*	Threatened	Threatened	Winters in areas where food is abundant and disturbance low; mature trees used for perching	Documented November–March in project area: Columbia River, Walla Walla River, and McNary NWR	Winter 2000-2001 bald eagle/avian surveys
Black-crowned night heron *Nycticorax nycticorax*		Monitor	Nests in trees, occasionally in emergent vegetation or on ground; feeds in freshwater marshes and wetlands	Documented breeder at McNary NWR; occasional visitor to irrigation ponds on project site	None proposed; occasional use of irrigation ponds and surrounding habitat
Caspian tern *Sterna caspia*		Monitor	Nests on sand and gravel areas on islands or margins of waterbodies	Documented breeder at McNary NWR	None proposed; no use of project area habitats

Common name ***Scientific name***	**Federal Status**	**State Status**	**Habitat Requirements**	**Occurrence**	**Proposed Surveys**
Common loon *Gavia immer*		Sensitive	Rare breeder in Washington state; winters along coast and inland lakes and rivers	Documented as an uncommon winter visitor to Columbia and Walla Walla Rivers	None proposed; no use of project area habitats
Ferruginous hawk *Buteo regalis*	Species of Concern	Threatened	Shrub-steppe and juniper-savannah, avoiding croplands; nests on rock, trees, or artificial structures; sensitive to human disturbance	Documented breeder March–August in project area approximately 1 mile from proposed natural gas pipeline	Verify current year nesting with WDFW; Spring 2001 wildlife transect surveys
Forster's tern *Sterna forsteri*		Monitor	Nests in floating nests on lakes or marshes, or on mud or sand flats near water	Documented breeder at McNary NWR	None proposed; no use of project area habitats
Golden eagle *Aquila chrysaetos*		Candidate	Open sagebrush, ponderosa pine and grasslands near cliffs and plateaus	Locally uncommon resident in Columbia River Basin; not documented in project area but may occur as occasional visitor	None proposed; occasional use of project area habitats possible
Loggerhead shrike *Lanius ludovicianus*	Species of Concern	Candidate	Open shrublands and woodlands, including sagebrush, juniper communities	Rare summer resident in region; occasional winter visitor to project area: McNary NWR and plant site	Spring 2001 wildlife transect surveys
Long-billed curlew *Numenius americanus*		Monitor	Open grasslands, prairies, meadows, and shrub-steppe; usually, but not always, near water. Will use disturbed habitats as well as native grasslands	Uncommon summer resident in region; may occur in project area	Spring 2001 wildlife transect surveys
Merlin *Falco columbarius*		Candidate	Open woodland and savannah	Rare migrant and winter visitor; documented at McNary NWR; Dodd Road; J.R. Simplot Company feedlot lagoons	Winter 2000-2001 bald eagle/avian surveys

Common Name ***Scientic name***	**Federal Status**	**State Status**	**Habitat Requirements**	**Occurances**	**Proposed Surveys**
Northern goshawk *Accipiter gentilis*	Species of Concern	Candidate	Mature and old-growth conifer forests with relatively open canopy; open woodlands	Uncommon migrant or winter visitor; documented at McNary NWR, Snake River (Burbank), Walla Walla River; unlikely to occur in project area	Winter 2000-2001 bald eagle/avian surveys
Olive-sided flycatcher *Contopus borealis*	Species of Concern		Open coniferous and mixed forests with streams and wetlands; nest in conifers	Rare migrant along Columbia and Walla Walla Rivers; unlikely to occur in project area	None proposed; unlikely to occur in project area
Oregon vesper sparrow *Pooecetes gramineus affinis*	Species of Concern	Candidate	Open habitats including sagebrush communities and agricultural areas	Not documented in project area; primarily a Cascade slope species; unlikely to occur in project area	None proposed; unlikely to occur in project area
Peregrine falcon *Falco peregrinus*	Species of Concern	Endangered	Cliffs typically used for nesting, often near water; feed on large concentrations of waterfowl and shorebirds	Uncommon breeder in Columbia River gorge; documented occasional visitor to project area: J.R. Simplot Company feedlot lagoons, May through November	Winter 2000-2001 bald eagle/avian surveys; Spring 2001 wildlife transect surveys
Sage grouse *Centrocercus urophasianus*	Species of Concern	Threatened	Medium to dense sagebrush stands with short and tall sagebrush and native grasses and forbs	Not documented in project area; historically present; unlikely to occur	None proposed; unlikely to occur in project area
Sage sparrow *Amphispiza belli*		Candidate	Sagebrush-steppe	Rare summer visitor; not documented in project area; may occur	Spring 2001 wildlife transect surveys
Sage thrasher *Oreoscoptes montanus*		Candidate	Nest in shrub-steppe, particularly sagebrush	Rare migrant, rare summer resident; not documented in project area; may occur	Spring 2001 wildlife transect surveys

Common Name ***Scientific name***	**Federal Status**	**State Status**	**Habitat Requirements**	**Occurrence**	**Proposed Surveys**
Sandhill crane *Grus canadensis*		Endangered	Nest in wet meadows, marshes; forage in emergent wetlands, hay and grain fields	Rare migrant and winter visitor; occasional transients at Walla Walla River delta and in grain fields during harsh weather; may occur in project area	Winter 2000-2001 bald eagle/avian surveys
Snowy plover *Charadrius alexandrinus*	Threatened	Endangered	Nest on beaches, sand flats, sandy river banks	Very rare spring migrant; two records of vagrant spring migratory birds at Walla Walla River delta; unlikely to occur in project area	None proposed; unlikely to occur in project area
Streaked horned lark *Eremophila alpestris strigata*	Species of Concern	Candidate	Species of Puget Trough and Willamette Valley; grasslands	Not documented in project area; recorded south of project area, Hatch Grade, in large migratory flocks of horned lark; may occur	Spring 2001 wildlife transect surveys
Swainson's hawk *Buteo swainsonii*		Monitor	Grasslands, sagebrush-steppe, juniper woodlands; nests in trees	Uncommon summer resident; documented breeder approximately 1 mile south of Walla Walla River	Verify current year nesting with WDFW; Spring 2001 wildlife transect surveys
Vaux's swift *Chaetura vauxi*		Candidate	Breeds in tree cavities in forested habitats; uses trees and chimneys for roosting	Not documented in project area; migratory flocks congregate at Walla Walla River delta in September; unlikely to occur in project area	None proposed; unlikely to occur in project area
Western burrowing owl *Athene cunicularia hypugea*	Species of Concern	Candidate	Nest in underground burrows in grassland and shrub-steppe	Uncommon summer resident, rare winter resident; not documented in project area; present north of project; may occur	Spring 2001 wildlife transect surveys

Common Name ***Scientific name***	**Federal Status**	**State Status**	**Habitat Requirements**	**Occurrence**	**Proposed Surveys**
Willow flycatcher *Empidonax traillii*	Species of Concern		Breeds in dense riparian shrub thickets, especially willow	Uncommon migrant and summer resident; documented breeder at Walla Walla River delta; not documented in project area; unlikely to occur	None proposed; unlikely to occur in project area
Mammals					
Black-tailed jackrabbit *Lepus californicus*		Candidate	Shrub-steppe habitats and grasslands with rabbitbrush	Documented in project area approximately 1 mile from proposed natural gas pipeline	Spring 2001 wildlife transect surveys
Fringed myotis *Myotis thysanodes*	Species of Concern		Inhabits open areas, riparian areas, forests; forages in open near water; requires undisturbed roost sites	Not documented in project area; may occur	General bat survey
Ord's kangaroo rat *Dipodomys ordii*		Monitor	Sagebrush-steppe, grasslands, juniper woodlands	Documented in project area approximately 0.5 miles from proposed electrical substation, approximately 1.5 miles from proposed natural gas pipeline	Spring 2001 wildlife transect surveys
Pale Townsend's big-eared bat *Plecotus townsendii pallescens (=Coryhorhinus townsendii)*	Species of Concern	Candidate	Inhabits forested and arid habitats; requires undisturbed buildings, caves, mines or bridges for roosting	Not documented in project area; may occur	General bat survey
Small-footed myotis *Myotis ciliolabrum*	Species of Concern		Cliffs and rock canyons in arid grasslands and desert scrub, pine and mixed conifer forests; requires undisturbed roost sites	Not documented in project area; unlikely to occur	General bat survey; unlikely to occur

Common Name ***Scientific name***	**Federal Status**	**State Status**	**Habitat Requirements**	**Occurrence**	**Proposed Surveys**
Washington ground squirrel *Spermophilus washingtonii*	Candidate	Candidate	Shrub-steppe with native bunchgrasses	Not documented in project area; recorded south of project, Vansycle Canyon area; may occur	Spring 2001 wildlife transect surveys
White-tailed jackrabbit *Lepus townsendii*		Candidate	Unfragmented sagebrush-steppe and native bunchgrass habitats	Not documented in project area; unlikely to occur	Unlikely to occur in project area; would be detected by spring 2001 transect surveys
Yuma myotis *Myotis yumanensis*	Species of Concern		Riparian, desert scrub, moist woodlands, and open forests; forages over water; requires undisturbed roost sites	Not documented in project area; may occur	General bat survey
Reptiles					
Northern sagebrush lizard *Sceloporus graciosus graciosus*	Species of Concern		Loose soil in sagebrush, and open juniper woodlands and coniferous forests	Not documented in project area; may occur	Spring 2001 wildlife transect surveys
Amphibians					
Columbia spotted frog *Rana luteiventris*	Species of Concern	Candidate	Quiet and slow-moving water with stable water level and consistent temperatures, emergent vegetation	Not documented in project area; may occur	General amphibian survey
Oregon spotted frog *Rana pretiosa*	Species of Concern	Endangered	Cool, permanent, quiet waters and shorelines of ponds, springs, marshes	Western species; unlikely to occur	General amphibian survey
Western toad *Bufo boreas*	Species of Concern	Candidate	In and near perennial streams, ponds and lakes; shelters by digging in loose soils or small mammal burrows	Not documented in project area; known to occur in the region, may occur	General amphibian survey; spring 2001 wildlife transect surveys

Sources: Ackerman, S. 1994
Denny, M 2000

Kleinfelder and EnviroNet AeroScience 1997
USFWS 1996a, 1996c, 2000b, 2000c and 2000d
Walla Walla County 2000
WDFW 2000a, 2000b, 2000c
WDNR 2000

During fall 2000 and winter 2001, botanical investigations of the proposed project site and pipeline laterals were conducted. These included vegetation mapping from 1998 aerial photos, ground-truthing of vegetation parameters, and wetlands evaluation. A bald eagle and raptor survey was performed between November 2000 and March 2001 to document the presence of wintering bald eagles in the project area and their use of the proposed power plant and pipeline lateral sites. The bald eagle survey included documentation of all bird species using the proposed project site, including information on the number and behavior of raptors at the power plant site and along the proposed pipeline laterals.

The spring 2001 wildlife surveys were designed to provide specific information about special status wildlife species that may breed in the project area and occasional migrants or visitors that may use the project area habitats. Black-tailed jackrabbit (*Lepus californicus*) and Ord's kangaroo rat (*Dipodomys ordii*) have been documented in the vicinity of the project facilities (Kleinfelder and EnviroNet AeroScience 1997; WDFW 2000b). Swainson's hawk (*Buteo swainsonii*) and ferruginous hawk (*Buteo regalis*) are both known to nest within two miles of proposed project facilities (WDFW 2000b).

Several other special status wildlife species that are known from the region may occur in the project area, including western burrowing owl (*Athene cunicularia hypugea*; WDFW 2000b), Washington ground squirrel (*Spermophilus washingtonii*; Walla Walla County 2000), northern sagebrush lizard (*Sceloporus graciosus graciosus*; Denny 2000), and long-billed curlew (*Numenius americanus*; Denny 2000, WDFW 2001b).

The spring surveys were also designed to provide information on the occurrence of species that are not expected to occur in the area, but which may be present as occasional summer residents, migrants, or visitors. These species include golden eagle (*Aquila chrysaetos*), loggerhead shrike (*Lanius ludovicianus*), peregrine falcon (*Falco peregrinus*), sage sparrow (*Amphispiza belli*), sage thrasher (*Oreoscoptes montanus*), streaked horned lark (*Eremophila alpestris strigata*), fringed myotis (*Myotis thysanodes*), pale Townsend's big-eared bat (*Plecotus townsendii pallescens*), Yuma myotis (*Myotis yumanensis*), white-tailed jackrabbit (*Lepus townsendii*), Columbia spotted frog (*Rana luteiventris*), and western toad (*Bufo boreas*).

Botanical surveys were designed to determine the presence of special status plant species, native-plant dominated shrub-steppe habitat, and noxious weeds.

3. Spring 2001 Surveys

3.1. Botanical Survey Methods

3.1.1 Survey Objectives

A late-spring survey of the project site and pipeline laterals was conducted to determine the occurrence and distribution of rare plants. Secondary objectives of the survey were to document the occurrence of weed species listed by Walla Walla County and to identify any areas of shrub-steppe dominated by native plant species.

3.1.2 Target Species

Data provided by the WNHP indicate that one plant species listed on Table 1 has been documented in the project area within the last twenty years. This species, gray cryptantha (*Cryptantha leucophaea*), grows in loose, sandy soils and flowers in May and June. This was the primary target species of the rare plant survey.

Two other rare plant species may occur in the project area, based on habitat requirements: beaked cryptantha (*Cryptantha rostellata*) and Prairie lupine (*Lupinus cusickii*). Beaked cryptantha blooms from late April to mid-May, and can be identified through mid-June. Prairie lupine flowers in May to June.

Other plant species listed in Table 1 are unlikely to occur in the project area due to lack of suitable habitat.

3.1.3 Survey Protocol

Pedestrian surveys of the project site and pipeline laterals were performed during April 8-11, May 6-8, and June 12-14. These survey dates cover the period prior to and during flowering of the target species, gray cryptantha, as well as beaked cryptantha and prairie lupine. A large number of weed species are also identifiable during this time period.

The April survey covered the entire project site, Jaussaud property, and the area within 1,000 feet of the proposed project pipeline laterals (**Figure 1 Wildlife and Botanical Survey Areas**). The survey was performed in conjunction with wildlife transect surveys. While many plant species were not identifiable during April, the surveys provided information on native plant species occurrence, shrub-steppe habitat quality, and weed occurrence. Agricultural lands on the project site and within the project lateral corridors was not surveyed. Undeveloped 'corners' between cultivated circles were included in the survey.

The May surveys covered a smaller subset of the project area, including the project site, Jaussaud property, and portions of the project pipeline laterals exhibiting at least moderate cover of native species. Those areas dominated by agricultural crops and high levels of human disturbance were not resurveyed for rare plant or weed species. The May surveys covered the following areas and subareas:

- Area 1: Project site
- Area 2: Jaussaud property
- Area 3, Subarea 2 and Subarea 2 south: Natural gas pipeline west, central segment, and south segment including well-field
- Area 4, Subarea 2: Electrical transmission line west, eastern segment
- Area 5, Subarea 1: Electrical transmission line east, northern segment
- Area 5, Subarea 4: Electrical transmission line east, southern segment
- Area 5, Subarea 5: Electrical transmission, interconnect segment
- Area 6, Subarea 1: Natural gas pipeline east, tap site
- Area 6, Subarea 2: Natural gas pipeline, J.R. Simplot, Company grazed lands east

- Area 6, Subarea 3: Natural gas pipeline, J.R. Simplot, Company grazed lands west
- Area 6, Subarea 4: Natural gas pipeline, Worden Farms east
- Area 6, Subarea 6: Natural gas pipeline, Worden Farms west

The June plant survey included the project site and Jaussaud property and those segments of the project laterals that showed potential to support native plant communities or the target rare plant species. The June survey was intended to cover areas of suitable habitat for rare species during the period when identification is possible. Areas surveyed intensively in June include:

- Area 1: Project site
- Area 2: Jaussaud property
- Area 3, Subarea 2 and Subarea 2 south: Natural gas pipeline west, central segment, and south segment including well-field
- Area 4, Subarea 2: Electrical transmission line west, eastern segment
- Area 5, Subarea 1: Electrical transmission line east, northern segment
- Area 5, Subarea 4: Electrical transmission line east, southern segment
- Area 5, Subarea 5: Electrical transmission, interconnect segment
- Area 6, Subarea 1: Natural gas pipeline east, tap site
- Area 6, Subarea 2: Natural gas pipeline, J.R. Simplot, Company grazed lands east

Suitable rare plant habitat within these areas was surveyed using closely spaced meandering transects. Weedy sites were surveyed less intensively. Man-made wetlands on the project site and Jaussaud property were delineated during early June; species lists for these sites are included in this report.

Plants were identified in the field or collected for later identification. Abundance of species was estimated as dominant, common, occasional, or trace. Locations of shrub-steppe habitat dominated by native species was recorded. Weed species present in the survey area were documented and their distributions described. Incidental sightings of wildlife were incorporated into wildlife species lists for the project area.

3.2 Wildlife Transect Survey Methods (Burrowing Owl, Black-tailed Jackrabbit, Washington Ground Squirrel, Ord's Kangaroo Rat, Long-billed Curlew, Northern Fence Lizard)

3.2.1 Survey Objectives

Transect surveys were performed to detect the presence of special status wildlife species within suitable shrub-steppe habitat. The primary survey objective was to determine species occurrence of the target wildlife species. The surveys were also designed to provide information about the occurrence of species that may be present as occasional summer residents, migrants, or visitors to the area.

3.2.2 Target Species

The target species for the wildlife transect surveys were western burrowing owl (*Athene cunicularia hypugea*), black-tailed jackrabbit (*Lepus californicus*), Washington ground squirrel (*Spermophilus washingtonii*), Ord's kangaroo rat (*Dipodomys ordii*), long-billed curlew (*Numenius americanus*), and northern sagebrush lizard (*Sceloporus graciosus graciosus).* These species are known or have the potential to breed in the area.

Species listed in Table 1 that may be present as occasional summer residents, migrants, or visitors include golden eagle (*Aquila chrysaetos*), loggerhead shrike (*Lanius ludovicianus*), peregrine falcon (*Falco peregrinus*), sage sparrow (*Amphispiza belli*), sage thrasher (*Oreoscoptes montanus*), streaked horned lark (*Eremophila alpestris strigata*), fringed myotis (*Myotis thysanodes*), pale Townsend's big-eared bat (*Plecotus townsendii pallescens*), Yuma myotis (*Myotis yumanensis*), white-tailed jackrabbit (*Lepus townsendii*), Columbia spotted frog (*Rana luteiventris*), and western toad (*Bufo boreas*).

Observations of raptors were recorded during the wildlife surveys. Swainson's hawk (*Buteo swainsonii*) and ferruginous hawk (*Buteo regalis*) are both known to breed within two miles of proposed project facilities (see Section 3.5, Raptor Nest Surveys, below).

3.2.3 Survey Protocol

Tightly spaced pedestrian transects were used to provide a 100 percent area search of suitable habitats for target species on the project site and 1,000 feet on each side of the project pipeline laterals. Surveys were conducted on April 8-11 and May 6-8, 2001, in order to document both early and late season activity, including evidence of successful breeding. Observations of wildlife species within other habitat types (agricultural croplands and hybrid poplar plantation) and outside of the survey boundaries were also recorded.

3.2.3.1 Burrowing owl. Transect surveys for burrowing owl and their burrows were conducted by walking through potential habitat (short-grass shrub-steppe) and noting the presence of natural or artificial burrows with sign of owl feathers, pellets, prey remains, eggshell fragments or excrement at or near the burrow entrance (Santa Cruz Predatory Bird Research Group 2001). Potential perches were scanned. Survey transects were closely spaced to provide 100 percent visual coverage of the ground surface. Potential burrows were verified by brief inspection; all other observations of occupied burrows were made maintaining a buffer of at least 160 feet from the burrow. Locations of burrows were recorded on GPS.

Any burrows that appeared to be occupied or suitable for nesting were resurveyed using the nesting season survey protocol (Santa Cruz Predatory Bird Research Group 2000). Spotting scopes and/or binoculars were used to view the burrows from as many points as necessary to provide visual coverage of the entire site. Surveys of occupied burrows were conducted on at least two separate dates during the peak of breeding season, April 15 to July 15.

3.2.3.2 Black-tailed jackrabbit. Pedestrian transect surveys of suitable shrub-steppe habitats were performed in early April and early May. Transects were tightly spaced to provide 100 percent visual coverage of the habitat. The surveyors walked each transect, observing animals

flushed and directions of travel (Cooperrider et al. 1986). Rabbit sign, including fecal pellets and active trails and runways were noted.

3.2.3.3 Ord's kangaroo rat. Pedestrian transects of suitable shrub-steppe habitat were performed in early April and early May. Transects were tightly spaced to provide 100 percent visual coverage within suitable habitat. Small burrows and holes were investigated for the presence of kangaroo rat sign (tracks and droppings) and the relative abundance of tracks was noted. Night-lighting was performed on the project site on two dates to verify the presence of Ord's kangaroo rat.

3.2.3.4 Washington ground squirrel. Pedestrian transect surveys of suitable shrub-steppe habitat were performed during early morning hours. Transects were tightly spaced (approximately 100 feet apart in suitable habitat) to provide 100 percent visual coverage of habitat. Appropriate-sized holes were investigated for squirrel sign. Potential ground squirrel holes were noted and resurveyed in May.

3.2.3.5 Long-billed curlew and northern sagebrush lizard. The pedestrian transects described above were used to survey for long-billed curlew and northern sagebrush lizard within shrub-steppe habitats. Long-billed curlew will occasionally nest in disturbed habitats, such as agricultural fields (Denny 2000). For this reason, agricultural lands within the survey area (project site crop circle and 1,000 feet on each side of the centerline of the laterals) were scanned with binoculars and/or spotting scopes during each transect survey.

3.2.3.6 Other wildlife species. All wildlife species observed during transect surveys and follow-up surveys of occupied sites were recorded.

3.3 General Amphibian Survey Methods

3.3.1 Survey Objective

General walk-through surveys of irrigation-induced wetlands on the project site were performed during April, May, and June. A list of amphibian species encountered at the irrigation pond sites was prepared.

3.3.2 Survey Protocol

Surveyors performed direct area searches of the palustrine scrub/shrub and palustrine emergent habitat surrounding the irrigation ponds. The ponds will be checked for adults, egg masses and larvae. Surveys include daytime hours as well as early morning or evening hours. Auditory detections of adults were recorded.

3.4 General Bat Survey Methods

3.4.1 Survey Objective

General observations were made in the vicinity of the irrigation ponds on the project site to determine whether bats are utilizing these habitats.

3.4.2 Survey Protocol

Observations were made from sunset to two hours after sunset on June 13. Daytime searches of the palustrine scrub/shrub and palustrine forested habitats were performed to assess the presence of suitable roosting habitat.

3.5 Raptor Nest Survey Methods

Swainson's hawk (*Buteo swainsonii*) and ferruginous hawk (*Buteo regalis*) are known to nest within approximately two miles of the proposed natural gas pipeline. Nest sites for both species are mapped and monitored by WDFW.

One ferruginous hawk nest platform is located approximately 0.5 mile from the proposed natural gas pipeline. This distance places the nest site near or within the recommended buffer radius for construction and other extended activities (1 kilometer or 0.6 miles; Larsen and Nordstrom 1999). This nest platform was checked for nesting activity on May 6, 2001, during an aerial search of other nest platforms in the vicinity.

4. Survey Results

4.1 Botanical Surveys

4.1.1 Rare Plant Surveys

No special status plant species were observed during the botanical surveys. A list of plant species observed on the project site, adjacent property, and within 1,000 feet of the project pipeline laterals is provided in **Appendix A Plant Species Observed In The Wallula Power Project Area And Relative Abundance**. Data forms for the June rare plant survey area presented in **Appendix B Rare Plant Survey Data Forms**. Over one hundred and thirty species were observed, many of which are weedy non-native species.

Most of the habitat surveyed was subject to repeated human disturbance and was dominated by non-native cheatgrass (*Bromus tectorum*), with varying amounts of native grasses including Sandberg's bluegrass (*Poa sandbergii*}, bluebunch wheatgrass (*Agropyron spicatum*), needle and thread grass (*Stipa comata*), bulbous bluegrass (*Poa bulbosa*), and Indian ricegrass (*Oryzopsis hymenoides*). Non-native seeded grasses were common along roadsides and agricultural areas, and included crested wheatgrass (*Agropyron cristatum*) and cereal rye (*Secale cereale*).

Shrub cover on the surveyed sites ranged from dense cover of mature big sagebrush (*Artemisia tridentata*) to sparse cover of gray rabbitbrush (*Chrysothamnus nauseosus*). Most shrubs observed in the survey area were native species; in addition to sagebrush and gray rabbitbrush, common shrubs included green rabbitbrush (*Chrysothamnus viscidiflorum*) and bitterbrush (*Purshia tridentata*).

Very few native wildlflower species were observed. Yellow bells (*Fritillaria pudica*), sego lily (*Calochortus macrocephala*), Carey's balsmroot (*Balsamorhiza careyana*), and wild flax (Linum perenne) were observed as one or a few individual plants. Locoweed (*Astragalus* sp.), Hood's phlox (*Phlox hoodii*), and orange globe mallow (*Sphaeralcea munroana*) were observed in greater numbers and more widely distributed. One individual plant in the genus *Lomatium* was observed. Due to the lack of flowers and fruit, it could not be keyed to species; however, based on leaf size, it would be classified as a 'large-leaved' desert parsley and would not be the rare Snake Canyon desert parsley (L. serpentinum) which has small leaf segments.

4.1.2 High Quality Native Shrub-Steppe Habitat

No high quality native shrub-steppe habitat was documented during the botanical surveys. The project site and pipeline lateral have been subject to repeated ground disturbance through cultivation of annual irrigated crops and tree-farming. The least disturbed sites are the corners between crop circles, which in some cases show development of dense shrub cover or greater than average cover of native grasses and forbs.

One site showed moderately high quality native shrub-steppe. This site is located between Area 4, Subarea 2 and Area 5, Subarea 1, to the south and west of the proposed electrical transmission line corridor (not part of this Application). This general area has been removed from agriculture and reseeded into grasslands. The specific site is a former corner between crop circles that has maintained a high percentage of native grass and forb species and exhibits a moderately well-developed cryptogam crust (an indicator of well-established shrub-steppe created by micro-organisms). The site exhibits low levels of infestation by weeds including yellow starthistle (*Centaurea solstitialis*) and tumble mustard (*Sisymbrium altissimum*). The site is less than five acres in size and is isolated from other areas of good quality shrub-steppe. If protected from disturbance during construction of the project, the site could provide a seed source of native species for adjacent reseeded, largely non-native, grasslands.

Portions of the project site and adjacent Jaussaud property support dense growth of mature sagebrush. These sites show moderate to high infestation levels of weeds, including yellow starthistle, tumble mustard, diffuse knapweed (*Centaurea diffusa*), Russian knapweed (*Centaurea repens*), kochia (*Kochia scoparium*), and rush skeleton weed (*Chondrilla juncea*). Weed control efforts on these areas should incorporate consideration of retaining the sagebrush shrub overstory both for habitat structure and seed source.

The site located on the eastern end of the proposed natural gas pipeline was notable for its low levels of weed infestation, low vegetation height, and relative abundance of native grass species (Area 6, Subareas 2 and 3). The site is grazed; it is not known if weed control management is practiced on the site. Badger and coyote dens were observed on the site, long-billed curlews were observed in the area, and two active burrowing owl dens were identified (see Section 4.2.1 below). The land management practices on the site appear to be maintaining a relatively high quality of plant community that supports a variety of wildlife species.

4.1.3 Noxious Weed Species

Botanical surveys recorded the presence and relative abundance of weed species along the survey route. **Table 2 Weed Species Occurrence and Distribution** lists the weed species observed in the project area, the Walla Walla County and state of Washington management status, and the distribution and abundance information for each species.

No Class A weed species were observed. These are non-native species with limited distribution in the state. Eradication of these species is required by state law.

Class B Designate species are designated for control by the state of Washington in specific regions. Four of these species were observed in the project area. Russian knapweed (*Centaurea [Acroptilon] repens*) was observed in several locations on the project site and adjacent property to the south. Oxeye daisy (*Chrysanthemum leucanthemum* [*Leucanthemum vulgare*]) was observed in trace quantities in Area 3, which includes the western segment of the proposed natural gas pipeline. Tall whitetop (*Lepidium latifolium*) was common on portions of the project site and Jaussaud property. Swainsonpea (*Sphaerophysa salsula*) was observed primarily on the project site and Jaussaud property; it was present in limited quantities in Area 5. All four of these species are designated for control in Walla Walla County.

Table 2.
Weed Species Occurrence And Distribution

Scientific Name	Common Name	Area 1 Project Site	Area 2 Jaussaud	Area 3 Gas West	Area 4 Electric West	Area 5 Electric East	Area 6 Gas East
Class A Weeds							
None observed							
Class B Designate							
Centaurea (Acroptilon) repens	Russian knapweed	O	O				
Chrysanthemum leucanthemum (Leucanthemum vulgare)	oxeye daisy			T			
Lepidium latifolium	tall whitetop	C	C			O	
Sphaerophysa salsula	Swainsonpea	C	C			O	
Class B Non-designate							
Centaurea diffusa	diffuse knapweed	C	O	O	O	O	O
Centaurea solstitialis	yellow starthistle	C	C	C	C	C	C
Chondrilla juncea	rush skeletonweed	O	O		O	O	
Kochia scoparia	kochia	C	C	O		O	T

Lythrum salicaria	purple loosestrife	O					
Class C Weeds							
Cardaria draba	hoary white top	C	O				
Cirsium arvense	Canadian thistle	C	C				
Cirsium vulgare	bull thistle	O	O				O
Conium maculatum	poison hemlock	C	C				
Hemizonia pungens	spikeweed	O	O				
Phalaris arundinacea	reed canarygrass	C	O				
Secale cereale	rye	O	O	O	D		
Monitor Weed Species							
Phragmites australis	common reed	O					
Verbascum thapsus	common mullein	O	O				

Abundance codes:
C = common, widespread in area but not dominant within cover class over entire area
D = dominant, widespread throughout area, dominant within cover class
O = occasional, observed in several locales within area
T = trace, observed in small numbers in one or a few locales within area

Class B Non-Designate species are those which are already abundant within a region; consequently, control of these species is a local option. The following Class B Non-Designate species were observed: diffuse knapweed (*Centaurea diffusa*), yellow starthistle (*Centaurea solstitialis*), rush skeletonweed (*Chondrilla juncea*), kochia (*Kochia scoparia*), and purple loosetrife (*Lythrum salicaria*). Yellow starthistle was common throughout the survey area; diffuse knapweed was present in every survey area. The project site and adjacent Jaussaud property showed the highest occurrence levels of weed species.

Local counties may choose to enforce control of state-listed Class C weeds or may simply provide education or technical information to landowners regarding methods of control. Class C weeds observed in the project area include: hoary white top (*Cardaria draba*), Canada thistle (*Cirsium arvense*), bull thistle (*Cirsium vulgare*), poison hemlock (*Conium maculatum*), spikeweed (*Hemizonia pungens*), reed canarygrass (*Phalaris arundinacea*), and cereal rye (*Secale cereale*). Class C weeds were present primarily on the project site and adjacent Jaussaud property. Many of these species (hoary white top, poson hemlock, reed canarygrass) were associated with agricultural wetlands on the sites. Cereal rye was a dominant species in portions of Area 4, where it apparently was planted during the conversion of irrigated lands to fallow lands.

The state of Washington collects distribution and abundance information on monitor weed species in order to evaluate the need for future inclusion of the species on the state noxious weed list. Two monitor weed species were observed during the survey: common reed (*Phragmites australis*) and common mullein (*Verbascum thapsus*). Common reed was associated with the

agricultural wetlands on the project site; common mullein was observed along disturbed roadsides on the project site and Jaussaud property.

The Walla Walla County Noxious Weed Control Board implements a noxious weed program that is updated annually, or as new infestations of weed species become apparent. The County program defines three categories of weeds, and the treatment priority and responsibilities for each. Category I weeds receive high priority for eradication of new infestations. The Walla Walla Category I species observed in the project area include Swainsonpea.

Walla Walla County Category II species are State Class B weeds that are managed on private land by the landowners, with the County Weed Board acting in the capacity of 'Coordinator for Landowners'. Category II weeds observed in the project area include rush skeletonweed, diffuse knapweed, yellow starthistle, and kochia.

Category III weeds are those that are called to landowners' attention; extra effort is requested of landowners to control these increasing populations. Category III weeds observed in the project area include cereal rye, purple loosetrife, and Russian knapweed.

Prior to project construction, the Applicant will prepare an Erosion Control, Revegetation and Landscaping Plan for the project site and all other areas to be affected by construction. The plan will provide detailed specifications of erosion control methods, site preparation for areas to be revegetated, seeding and planting species mixes, and long term vegetation maintenance objectives. The plan will include proposals for weed control developed in consultation with the Walla Walla County Noxious Weed Control Board.

4.2 Wildlife Surveys

4.2.1 Wildlife Transect Surveys

Pedestrian transect surveys were conducted on the project site and pipeline laterals on April 8-11 and May 6-8, 2001. During the April surveys, the entire project site, adjacent Jaussaud property, and a 1,000-foot corridor surrounding the project pipeline laterals were walked. Tightly spaced transects were placed in areas of suitable habitat for the target species. During May, the project site and Jaussaud property were completely resurveyed, as well as suitable habitats within the project pipeline lateral corridors. **Figure 1 Wildlife And Botanical Survey Areas** shows the locations of the survey areas and subareas. **Appendix C Wildlife Species Observed In The Wallula Power Project Area** presents a list of wildlife species observed in the project area. **Appendix D Wildlife Survey Areas, Survey Dates, And Survey Data Forms** includes the data sheets for the wildlife surveys.

4.2.1.1 Burrowing owl. Two burrowing owl dens were observed during the April survey in Area 6, Subarea 2. The eastern den site did not appear to be recently excavated or worked; however, two owls were observed at the site and pellets and animal remains were present at a nearby site. The western den site had been recently worked and prey remains, pellets, and excrement were observed at the opening. One adult owl was observed at the western den. Followup surveys were conducted in April, May and June. During the April visit, no owls were

observed. During May, only one adult was observed near the western den site. On June 13, one owl was observed perched near the western den and a pair were observed ground-perched at the eastern den. No young were observed.

The two burrowing owl den sites area located within the 600 and 750 feet of the centerline of the proposed natural gas pipeline corridor. Construction activity will be located over 500 feet away from the burrows and is not expected to disturb breeding owls. Currently, the state of Washington does not have formal management recommendations for burrowing owl (WDFW 2001e). Management guidelines developed for California populations of burrowing owl call for no disturbance within 50 meters (160 feet) of occupied burrows during the non-breeding season and within 75 meters (250 feet) of occupied burrows during the breeding season (SCPBRG 2001). The Applicant proposes to meet or exceed the 250-foot disturbance-free buffer during the March 15 to August 15 breeding season for any occupied burrows along the natural gas pipeline right-of-way.

4.2.1.2 Black-tailed jackrabbit. No black-tailed jackrabbits were observed during wildlife transect surveys or other field activities. Suitable habitat for black-tailed jackrabbit is extremely limited in the project area; due to the extent of agricultural activity, few shrub-dominated habitats are present. Dense stands of sagebrush greater than 1 meter in height were present on the project site, Jaussaud property, and in corners between crop circles along the project pipeline laterals. These stands were each less than 1 acre in size and isolated from other sagebrush stands.

Construction and operation of the proposed power plant will not affect black-tailed jackrabbit or its habitat. No specific mitigation for black-tailed jackrabbit is proposed.

4.2.1.3 Ord's kangaroo rat. Ord's kangaroo rat sign was observed at numerous locations on the project site and pipeline laterals. Burrows, diggings, tracks and droppings were commonly observed along roadsides and other areas of disturbed sandy soils. Soils that were well-vegetated and lacked bare sandy patches did not show evidence of use by kangaroo rat. The reseeded agricultural lands along the proposed transmission line route (western half) and along the eastern half of the proposed natural gas pipeline showed the lowest levels of use by kangaroo rat. Road cuts and sandy blowout areas on the project site, Jaussaud property, and the remainder of the project pipeline laterals showed abundant kangaroo rat sign. Ord's kangaroo rats were observed during night surveys on the project site on two occasions.

Ord's kangaroo rat is locally common in the project vicinity, wherever sandy soils are present (WDFW 2001f). Construction of the project will temporarily disrupt kangaroo rats from their burrows in areas where ground-disturbing activities occur on sandy soils. Kangaroo rats are expected to re-establish colonies in these areas once construction is complete and soils are replaced. Permanent displacement of kangaroo rats will occur in areas where aboveground structures are constructed, including the power generation facilities and evaporation ponds. No mitigation specific to Ord's kangaroo rat is proposed.

4.2.1.4 Washington ground squirrel. Pedestrian transect surveys in April and May of 2001 resulted in no detections of Washington ground squirrels or their sign. Potential habitat for

Washington ground squirrel, shrub-steppe habitat dominated by native species, is extremely limited in the project area. Sites with the least number of invasive, non-native species include the northeastern portion of the transmission line right-of-way (Area 4, Subarea 2 and Area 5, Subarea 1), the eastern portion of the natural gas pipeline corridor (Area 6, Subarea 2), and the southernmost section of the transmission line right-of-way (Area 5, Subareas 4 and 5). The northeastern corner of the proposed transmission line right-of-way crosses an area that was an undeveloped corner between crop circles for many years. This site supports a fairly well-developed patch of shrub-steppe, with an evident cryptogam crust . The other two sites have many native species and low densities of weeds, but do not show any development of cryptogam crust.

Construction and operation of the proposed power project is not expected to affect Washington ground squirrel or its habitat. No specific mitigation for Washington ground squirrel is proposed.

4.2.1.5 Long-billed curlew and northern sagebrush lizard. Long-billed curlews were detected at several locations along the proposed natural gas pipeline, east of the fiber farm stands. Many of the observations were of curlews flying to and from crop fields adjacent to the proposed pipeline corridor. Transect surveys of these sites in April and May did not detect any nest sites or young.

Northern sagebrush lizard was not observed on any sites during the surveys.

Construction of the proposed natural gas pipeline will temporarily disrupt habitat that may be used by long-billed curlew. Because the natural gas pipeline will be buried, and the corridor revegetated, no long-term effects to curlew populations are expected to occur.

4.2.1.6 Other wildlife species. Badger diggings were observed in every survey area; a few active dens were noted. Coyote dens were observed in Area 2 and Area 6; the Area 6 den was active. Coyotes were observed in Area 5, and are known to frequent the fiber farm stands where cover and irrigation water are available. A short-eared owl ground roost was found in Area 4, Subarea 2. Grasses surrounding the roost had been flattened and several pellets were found.

4.2.2 Amphibian Surveys

Surveys of the irrigation ponds and associated wetlands on the project site were conducted during April, May and June 2001. One adult bullfrog was detected in Irrigation Pond A during the June survey. No other detections of amphibians-adults, egg masses, or tadpoles- were made.

No mitigation specific to amphibians is proposed for the project.

4.2.3 Bat Surveys

Bat surveys were conducted at the irrigation ponds and associated wetlands on the western edge of the project site on June 13, 2001. No observations of bats were made during the surveys or during any other field work on site.

No mitigation specific to bats is proposed for the project.

4.2.4 Raptor Nest Surveys

The WDFW maintains an artificial nest platform for ferruginous hawk approximately 0.5 miles from the proposed natural gas pipeline tap site. This next platform was checked during an aerial survey on May 6, 2001; no evidence of nesting or use was observed. If the nest platform is occupied during the period of project construction, the construction activity will be subject to timing restrictions during the March 1 to August 15 breeding season per current WDFW management guidelines (Larsen and Nordstrom 1999).

An active red-tailed hawk nest was observed west of the southwest corner of the project site, on the west side of U.S. Highway 12. At least two young were present in the nest on the June survey date. This nest site is located about 250 feet from the proposed construction access road, and at least 500 feet from other project construction sites. Construction activity is not expected to adversely affect the hawks, which appear to have habituated to the heavy volume of traffic on U.S. Highway 12.

A northern harrier nest is suspected to be present west of the project site, near the beaver pond wetlands that are located between of U.S. Highway 12 and the Columbia River. Aggressive behavior of both male and female harriers toward surveyors was observed west of U.S. Highway 12 during May 2001. Aggressive behavior of a male northern harrier was observed on the west side of the Jaussaud property during June wetland surveys.

No other raptor nests or territorial behavior was observed on the project site or within 1,000 feet of pipeline laterals during the spring 2001 surveys.

5. References Cited

Ackerman, S. 1994. White Pelicans Nest Successfully At Crescent Island. Journal Of The Washington Ornithological Society (Oct. 1994).

Cooperrider, A.Y., R.J. Boyd, And H.R. Stuart, eds. 1986. Inventory And Monitoring Of Wildlife Habitat. U.S. Department Of Interior, Bureau Of Land Management Service Center, Denver, CO. 858 p.

Denny, M. 2000. Personal Communication Between Mike Denny, Biological Consultant And Blue Mountain Audubon Representative, College Place, WA (509) 529-0080, And K. Smayda Of Smayda Environmental Associates, Seattle, WA. December 28, 2000.

Federal Register. 1999. Proposed Rule To Remove The Bald Eagle In The Lower 48 States From The List Of Endangered And Threatened Wildlife. July 6, 1999. U.S. Fish And Wildlife Service. Federal Register 64(128):36453–36464.

Kleinfelder and EnviroNet AeroScience. 1997. SEPA Checklist And Biological Assessment For The Wallula Urea Facility, Wallula, Washington. August 1997, Kleinfelder, Incorporated, Bellevue, Washington And EnviroNet AeroScience, LLC, Santa Barbara, California.

Kronner, K. 2001. Telephone Conversation Between K. Kronner, Northwest Wildlife Consultants, Pendleton, OR (541) 278-2987, And K. Smayda, Smayda Environmental Associates, Seattle, WA. January 18, 2001.

Larsen, E.M. (editor). 1997. Management Recommendations For Washington's Priority Species. Vol. III: Amphibians And Reptiles. Washington Department Of Fish And Wildlife, Olympia WA.

Larsen, E.M. & N. Nordstrom (Editors). 1999. Management Recommendations For Washington's Priority Species, Vol. IV: Birds. Washington Department Of Fish And Wildlife, Olympia WA. [Online: www.wa.gov/wdfw/hab/phs/vol4].

Oregon Natural Heritage Program. 1998. Rare, Threatened And Endangered Plants Of Oregon. Oregon Natural Heritage Program, Salem, OR. March 1998. 92 p.

Santa Cruz Predatory Bird Research Group. 2001. Burrowing Owl Survey Protocol. Prepared By The Burrowing Owl Consortium Of The Santa Cruz Predatory Bird Research Group At Long Marine Lab, University Of California, Santa Cruz. http://www2.ucsc.edu/~scpbrg/section1.html Accessed March 8, 2001.

USFWS. 1996a. Letter From Philip Laumeyer, Field Supervisor, Upper Columbia River Basin Field Office, Spokane WA, re: Listed And Proposed Endangered And Threatened Species, Candidate Species, And Species Of Concern That May Occur In The Vicinity Of The Dodd Road Project Near Wallula, Walla Walla County, WA. April 11, 1996.

USFWS. 1996b. Letter From Philip Laumeyer, Field Supervisor, Upper Columbia River Basin Field Office, Spokane WA, re: Listed And Proposed Endangered And Threatened Species, Candidate Species And Species Of Concern That May Occur In The Vicinity Of The Dodd Road Project Near Wallula, Walla Walla County, WA - Reference April 11, 1996 Letter. October 30, 1996.

USFWS. 1996c. Supplemental Planning Aid Report For The Walla Walla River Basin Reconnaissance Study. USFWS Ecological Services, Moses Lake, WA. December 1996.

USFWS. 2000a. Annual Winter Waterfowl Survey Data For November 1999, December 1999, And January 2000. USFWS, McNary National Wildlife Refuge, Burbank, WA.

USFWS. 2000b. Meeting Between Rebecca Chuck, Refuge Manager, McNary National Wildlife Refuge, Burbank, WA (509)547-4942; K. Smayda Of Smayda Environmental Associates, Seattle WA; And R. Costello Of Mobrand Biometrics, Vashon I., WA. September 14, 2000 In Burbank, WA.

USFWS. 2000c. Meeting Between Howard Browers, Refuge Biologist, McNary National Wildlife Refuge, Pasco, WA, (509) 545-8588, And K. Smayda of Smayda Environmental Associates, Seattle WA. October 17, 2000 In Pasco, WA.

USFWS. 2000d. Letter From Susan B. Martin, Field Supervisor, USFWS Upper Columbia Fish And Wildlife Office, Spokane WA 99206, re: Listed And Proposed Endangered And Threatened Species, Candidate Species And Species Of Concern That May Occur In The Vicinity Of The Dodd Road Project Near Wallula, Walla Walla County, Washington - Reference April 11, 1996 Letter. November 7, 2000.

Walla Walla County. 2000. Draft SEPA Environmental Impact Statement For Stateline Wind Project. Walla Walla County Regional Planning Department., Walla Walla WA, 99362. September 25, 2000.

Walla Walla County Weed Control Board. 2001. 2001 Washington State And Walla Walla County Noxious Weed List And Walla Walla County Noxious Weed Control Board 2001 Noxious Weed Program. Provided By B. Bosley, Walla Walla County Weed Control Board, Walla Walla, WA.

WDFW (Washington Department Of Fish And Wildlife). 2000a. Species Of Concern In Washington State, Full List, Current Through June 21, 2000. WDFW, Olympia [Online: www.wa.gov/wdfw/wlm/diversty/soc/soc.htm.].

WDFW Washington Department Of Fish And Wildlife). 2000b. Letter, Maps And Data From Lori Guggenmos, GIS Programmer, Priority Habitats And Species Program, re: Priority Habitats And Species In The Vicinity Of The Proposed Wallula Power Project. WDFW, Olympia. October 3, 2000.

WDFW. 2000c. Meeting With Pat Fowler, District Biologist, WDFW, Walla Walla, WA (509) 525-2724; K. Smayda, Smayda Environmental Associates, Seattle, WA; And R. Costello, Mobrand Biometrics, Vashon I., WA. October 14, 2000.

WDFW. 2001a. Telephone Conversation Between M. Grandstaff, Habitat Biologist, WDFW, Walla Walla, WA (509) 529-0260, And K. Smayda of Smayda Environmental Associates, Seattle, WA. February 8, 2001.

WDFW. 2001b. Telephone Conversation Between P. Fowler, District Wildlife Biologist, WDFW, Walla Walla, WA (509) 526-4377, And K. Smayda Of Smayda Environmental Associates, Seattle, WA. February 16, 2001.

WDFW. 2001c. Telephone Conversation Between T. Owens, WDFW Priority Habitats And Species Program, Olympia, WA (360) 902-2489, And K. Smayda Of Smayda Environmental Associates, Seattle, WA. March 9, 2001.

WDFW. 2001d. Telephone Conversation Between M. Vander Haegen, WDFW Priority Habitats And Species Program, Olympia, WA (360) 902-2516, And K. Smayda Of Smayda Environmental Associates, Seattle, WA. March 9, 2001.

WDFW. 2001e. Telephone Conversation Between N. Nordstrom, WDFW Priority Habitats And Species Program, Olympia, WA (360) 902-2617, And K. Smayda Of Smayda Environmental Associates, Seattle, WA. April 17, 2001.

WDFW. 2001f. Telephone Conversation Between P. Fowler, District Wildlife Biologist, WDFW, Walla Walla, WA (509) 526-4377, And K. Smayda Of Smayda Environmental Associates, Seattle, WA. April 19, 2001.

WDNR (Washington Department of Natural Resources). 1999. Threatened, Endangered, And Sensitive Plant Species Of Washington, Updated January 1999. Information System, WDNR, Natural Heritage Program, Olympia. [Online: http://www.wa.gov/dnr/htdocs/fr/nhp/wanhp.html.]

WDNR . 2000. Letter From Sandy Swope Moody, Environmental Coordinator, Washington Natural Heritage Program, re: Information On Rare Plants, High-Quality Wetland Ecosystems, And High-Quality Terrestrial Ecosystems In The Vicinity Of The Proposed Wallula Power Project. October 10, 2000. Olympia, Washington.

WDNR And Bureau Of Land Management. 2000. Field Guide To Rare Vascular Plants. Natural Heritage Program, WDNR, And Spokane Dist., USDI Bureau Of Land Management. [Online: www.wa.gov/dnr/htdocs/fr/nhp/refdesk/fguide/htm/4fgmain.htm]

WDW (Washington Department Of Wildlife). 1991. Management Recommendations For Washington's Priority Habitats And Species. E. Rodrick And R. Milner, Tech. Eds. WDFW, Olympia. May 1991. 122 p.

Appendix A

Plant Species Observed In The Wallula Power Project Area And Relative Abundance

Appendix A
Plant Species Observed In The Wallula Power Project Area And Relative Abundance

Scientific Name	Common Name	Area 1 Project Site	Area 2 Jaussaud	Area 3 Gas West	Area 4 Electrical West	Ara 5 Electrical East	Area 6 Gas East
Achillea lanulosa	western yarrow	O	C	C	O	O	O
Achillea millefolium	yarrow		O				
Agropyron cristatum	crested wheatgrass			O	C	O	O
Agropyron spicatum	bluebunch wheatgrass	O	O	O	O	O	O
Agrostis scabra	rough bentgrass	O					
Agrostis stolonifera	creeping bentgrass	O	O				
Amsinckia lycopsoides	tarweed fiddleneck	O	O	C	C		O
Anthriscus caucalis	burr chervil	O					
Arctium minus	common burdock	O					
Artemisia tridentata	big sagebrush	D	D	D	T	C	O
Asclepias speciosa	showy milkweed	C	O				
Asparagus officinalis	asparagus	T	T				
Astragalus sp.	locoweed			C			O
Atriplex rosea	red orache	C	C				
Balsamorhiza careyana	Carey's balsamroot		O				T
Brassica kaber	wild mustard	O					
Brodiaea douglasii	brodiaea		T	O	O	T	
Bromus inermis	smooth brome				T	T	
Bromus mollis	soft brome	O					
Bromus tectorum	cheatgrass	D	D	D	D	D	D
Calochortus macrocarpus	sego lily					T	T
Capsella bursa-pastoris	shepherd's purse	C	O				
Cardaria draba [4]	hoary white top	C	O				
Centaurea diffusa [3]	diffuse knapweed	C	O	O	O	O	O
Centaurea (Acroptilon) repens [2]	Russian knapweed	O	O				
Centaurea solstitialis [3]	yellow starthistle	C	C	C	C	C	C
Chaenactis douglasii douglasii	hoary chaenactis		O	T			
Chenopodium album	lamb's quarters	C	C				
Chenopodium chenopodioides	red goosefoot		C				

Scientific Name	Common Name	Area 1 Project Site	Area 2 Jaussaud	Area 3 Gas West	Area 4 Electrical West	Area 5 Electrical East	Area 6 Gas East
Chondrilla juncea [3]	rush skeletonweed	O	O		O	O	
Chrysanthemum leucanthemum [2] *(Leucanthemum vulgare)*	oxeye daisy			T			
Chrysothamnus nauseosus	gray rabbitbrush	D	D	D	C	C	C
Chrysothamnus viscidiflorum	green rabbitbrush	D	D	O	O	O	C
Cirsium arvense [4]	Canadian thistle	C	C				
Cirsium vulgare [4]	bull thistle	O	O				O
Conium maculatum [4]	poison hemlock	C	C				
Conyza canadensis	horseweed	O					
Crepis atrabarba	hawksbeard						O
Dactylis glomerata	orchardgrass	C	O				T
Dipsacus fullonum	common teasel	O					
Eleagnus angustifolia	Russian olive	D	D	T			
Eleocharis palustris	common spikerush	T					
Elymus cinereus	basin wildrye	O					
Elymus flavescens	yellow wildrye	T		O	O	O	
Elymus glaucus	blue wildrye	T					
Elymus triticoides pubescens	creeping wildrye		T				
Epilobium angustifolium	fireweed	C	O				
Epilobium watsonii	Watson's willow-herb	O					
Equisetum arvense	common horsetail	O	O				
Erigeron filfolius	thread-leaf daisy			O			
Eriogonum niveum	snow desert buckwheat				O		
Erodium cicutarium	redstem filaree	C	C		C	O	C
Erysimum asperum	prairie rocket				O		
Erysimum occidentalis	western wallflower						O
Festuca idahoensis	Idaho fescue	O		O	O	O	
Festuca occidentalis	western fescue	C	O				
Festuca octoflora	six-weeks fescue	O					
Festuca ovina	sheep fescue	O					
Fritillaria pudica	yellow bells					T	T
Galium aparine	cleavers	O	O				
Gleditsia sp.	honey locust	T					

Scientific Name	Common Name	Area 1 Project Site	Area 2 Jaussaud	Area 3 Gas West	Area 4 Electrical West	Area 5 Electrical East	Area 6 Gas East
Heliotropium curassavicum	salt heliotrope	T					
Hemizonia pungens [4]	spikeweed	O	O				
Heracleum lanatum	cow parnsip	T					
Hordeum depressum	meadow barley	O					
Hordeum jubatum	foxtail barley	C					
Juncus balticus var. vallicola	baltic rush	O					
Juncus torreyi	Torrey's rush	O					
Juniperus occidentalis	western juniper		T				
Kochia scoparia [3]	kochia	C	C	O		O	T
Lactuca ludoviciana	western lettuce	O	O				
Lactuca serriola	prickly lettuce			O	O		C
Lactuca spp.	wall lettuce	O					
Lamium amplexicaule	common henbit	O	O		O		
Lamium purpureum	purple henbit	C					
Lapsana communis	nipplewort	O	O				
Lepidium latifolium [2]	tall whitetop	C	C			O	
Lesquerella douglasii	Columbia bladderwort	O	O	C	O	T	
Linum perenne	wild flax						O
Lomatium sp.	desert parsley					T	
Lythrum salicaria [3]	purple loosestrife	O					
Machaenthera canescens	purple aster	T					
Malus spp.	apple (cultivated species)	O					
Malva neglecta	common mallow	O					
Matricaria matricariodes	pineappleweed	O					
Melilotus alba	white sweet clover	O					
Nepeta cataria	catnip	O	T				
Oenothera pallida pallida	white-stemmed evening primrose		O				O
Opuntia polycantha	prickly pear cactus	O	C	O	O	O	O
Oryzopsis hymenoides	Indian ricegrass		O	O	O	O	C
Panicum capillare	witchgrass	O					
Petalostemon ornatum	western prairie-clover			O			
Phacelia sp.	Phacelia			O			
Phalaris arundinacea [4]	reed canarygrass	C	O				

Scientific Name	Common Name	Area 1 Project Site	Area 2 Jaussaud	Area 3 Gas West	Area 4 Electrical West	Area 5 Electrical East	Area 6 Gas East
Phlox hoodii	Hood's phlox			O			O
Phragmites australis [5]	common reed	O					
Pinus ponderosa	Ponderosa pine	T					
Plantago lanceolata	lance-leaved plaintain	O					
Plantago patagonica	woolly plantain			T	O		C
Poa bulbosa	bulbous bluegrass	O	O	C		O	O
Poa juncifolia	alkali bluegrass		O		O	O	O
Poa pratensis	Kentucky bluegrass	O					
Poa sandbergii	Sandberg's bluegrass		T	O	C	O	C
Poa spp.	bluegrass species	O					
Polygonum lapathifolium	pale smartweed	O					
Polypogon monspeliensis	rabbitfoot polypogon	O					
Populus deltoides occidentalis	Great Plains cottonwood	O	O			T	
Populus nigra italica	Lombardy poplar	O					
Populus sp.	hybrid poplar			C		C	O
Prunus spp.	plum, cherry (cultivated)	O					
Purshia tridentata	bitterbrush	T	O	O			O
Ranunculus cymbalaria	shore buttercup	O					
Rosa spp.	rose (cultivated species)	O					
Rosa woodsii	Wood's rose	O	O				
Rumex acetosella	red dock	O					
Rumex crispus	curly dock	O	O				
Rumex occidentalis	western dock	O	O				
Rumex venosus	winged dock			C			
Salix amygdaloides	peachleaf willow	T					
Salix babylonica	weeping willow	T					
Salix exigua	coyote willow	O					
Salix lasiandra	Pacific willow	O	O				
Salsola iberica	tumbleweed	C	C	O	O	O	O
Scirpus acutus	hardstem bulrush	O	O				
Scirpus americanus	American three-square	O					
Scirpus olneyi	Olney's bulrush	T					
Scirpus spp.	bulrush species	T					

Scientific Name	Common Name	Area 1 Project Site	Area 2 Jaussaud	Area 3 Gas West	Area 4 Electrical West	Area 5 Electrical East	Area 6 Gas East
Scutellaria spp.	skullcap species	O					
Secale cereale [4]	rye	O	O	O	D		
Setaria glauca	yellow foxtail	O					
Sisymbrium altissimum	tumble mustard	C	C	C	O	C	C
Sisymbrium loeselii	Loesel tumble mustard	C	O		O		
Solanum dulcamera	bittersweet nightshade	O	O				
Solidago canadensis	Canada goldenrod	C	C				
Sphaeralcea munroana	orange globe mallow		O				
Sphaerophysa salsula [2]	Swainsonpea	C	C			O	
Sporobolus cryptandrus	sand dropseed		T				
Stipa comata	needle and thread grass		O	O	O		O
Taraxacum officinale	common dandelion	O	O		O		
Thlaspi arvense	field pennycress	O					
Tragopogon dubius	western salsify	O	O	O	O	O	O
Triticum aestivum	wheat (cultivated)					O	
Typha latifolia	common cattail	O	O				
Urtica dioica	stinging nettle	O	O				
Verbascum thapsus [5]	common mullein	O	O				
Veronica spp.	speedwell	O	O				
Xanthium strumarium	common cocklebur	O					

Includes species observed during Spring 2001 surveys and previous fieldwork:

- **Kleinfelder and EnviroNet AeroScience. 1997.** SEPA Checklist and Biological Assessment for the Wallula Urea Facility, Wallula, Washington. August 1997, Kleinfelder, Inc., Bellevue, Washington and EnviroNet AeroScience, LLC, Santa Barbara, California.
- **Smayda Environmental Associates, Incorporated. 2001.** Wetland Evaluation Report for the Proposed Wallula Power Project. Prepared for Newport Northwest, LLC, Kirkland, WA by Smayda Environmental Associates, Incorporated, Seattle, WA.
- **Meridian Environmental, Incorporated 2001.** Wetland Delineation Report for the Wallula Power Project. Prepared for Newport Northwest, LLC, Kirkland, WA by Meridian Environmental, Inc., Seattle, WA.

Footnotes: State of Washington Noxious Weed Designation

1. Class A Weed
2. Class B Designate
3. Class B Non-Designate
4. Class C Weed
5. Monitor Weed Species

Abundance codes:

C = common, widespread in area but not dominant within cover class over entire area
D = dominant, widespread throughout area, dominant within cover class
O = occasional, observed in several locales within area
T = trace, observed in small numbers in one or a few locales within area

Appendix B

Rare Plant Survey Data Forms

Appendix C

Wildlife Species Observed In The Wallula Power Project Area

Appendix C

Wildlife Species Observed In The Wallula Power Project Area

Common Name	**Scientific Name**
American avocet*	*Recurvirostra americana*
American coot*	*Fulica americana*
American crow*	*Corvus brachyrhynchos*
American goldfinch	*Carduelis tristis*
American kestrel*	*Falco sparverius*
American robin*	*Turdus migratorius*
American white pelican*	*Pelecanus erythrorhynchos*
American wigeon*	*Anas americana*
Badger*	*Taxidea taxus*
Bald eagle*	*Haliaeetus leucocephalus*
Bewick's wren*	*Thryomanes bewickii*
Black-billed magpie*	*Pica pica*
Black-crowned night heron*	*Nycticorax nycticorax*
Black-necked stilt*	*Himantopus mexicanus*
Black-tailed jackrabbit*	*Lepus californicus*
Blue-winged teal*	*Anas discors*
Bullfrog*	*Rana catesbeiana*
Bullock's oriole*	*Icterus bullockii*
Brewer's sparrow	*Spizella breweri*
Brown-headed cowbird*	*Molothrus ater*
California quail*	*Callipepla californica*
Canada goose*	*Branta canadensis*
Cedar waxwing	*Bombycilla cedrorum*
Cinnamon teal*	*Anas cyanoptera*
Cliff swallow*	*Petrochelidon pyrrhonota*
Common raven*	*Corvus corax*
Coyote*	*Canis latrans*
Dark-eyed junco*	*Junco hyemalis*

Double-crested cormorant*	*Phalacrocorax auritus*
European starling*	*Sturnus vulgaris*
Gadwall*	*Anas strepera*
Gopher snake*	*Pituophis catenifer*
Great blue heron*	*Ardea herodias*
Great horned owl	*Bubo virginianus*
Green-winged teal*	*Anas crecca*
Horned lark*	*Eremophila alpestris*
House sparrow*	*Passer domesticus*
Killdeer*	*Charadrius vociferus*
Lewis' woodpecker*	*Melanerpes lewis*
Loggerhead shrike	*Lanius ludovicianus*
Long-billed curlew*	*Numenius americanus*
Mallard*	*Anas platyrhynchos*
Mink	*Mustela vison*
Mourning dove*	*Zenaida macroura*
Mule deer*	*Odocoileus hemionus*
Muskrat	*Ondatra zibethicus*
Northern flicker*	*Colaptes auratus*
Northern harrier*	*Circus cyaneus*
Northern pintail*	*Anas acuta*
Northern shoveler*	*Anas clypeata*
Nuttall's cottontail*	*Sylvilagus nuttallii*
Ord's kangaroo rat*	*Dipodomys ordii*
Pied-billed grebe	*Podilymbus podiceps*
Pocket gopher, unidentified species*	*Thomomys sp.*
Red-tailed hawk*	*Buteo jamaicensis*
Red-winged blackbird*	*Agelaius phoeniceus*
Ring-billed gull*	*Larus delawarensis*
Ring-necked pheasant*	*Phasianus colchicus*
Rough-legged hawk	*Buteo lagopus*
Savannah sparrow*	*Passerculus sandwichensis*
Song sparrow*	*Melospiza melodia*

Striped skunk*	*Mephitis mephitis*
Violet green swallow*	*Tachycineta thalassina*
Western burrowing owl*	*Athene cunicularia hypugea*
Western kingbird*	*Tyrannus verticalis*
Western meadowlark*	*Sturnella neglecta*
White-crowned sparrow*	*Zonotrichia leucophrys*
White-tailed deer*	*Odocoileus virginianus*
Yellow-headed blackbird*	*Xanthocephalus xanthocephalus*
Yellow-rumped warbler	*Dendroica coronata*

* indicates species observed during Spring 2001 surveys. Table also includes wildlife recorded observations from other project surveys, and surveys of the general vicinity. Sources include:

Denny, M. 2000. Personal communication between Mike Denny, biological consultant and Blue Mountain Audubon representative, College Place, WA (509) 529-0080, and K. Smayda of Smayda Environmental Associates, Seattle, WA. December 28, 2000.

Kleinfelder and EnviroNet AeroScience. 1997. SEPA Checklist and Biological Assessment for the Wallula Urea Facility, Wallula, Washington. August 1997, Kleinfelder, Inc., Bellevue, Washington and EnviroNet AeroScience, LLC, Santa Barbara, California.

Appendix D

Wildlife Survey Areas, Survey Dates, And Survey Data Forms

Transect Area And Subarea Number & Description	**2001 Survey Dates**		
	April	**May**	**June**
Area 1, Plant Site :	4-08	5-02**, 5-06, 5-07, 5-22**, 5-23**	6-13, 6-14
Area 2, Jaussaud property	4-08	5-06	6-12 *
Area 3, Natural gas pipeline route, western portion			
Area 3, Subarea 1 (southwest segment)	4-10		
Area 3, Subarea 2 (central segment)	4-10	5-07	6-13*
Area 3, Subarea 2, south (well-field segment)		5-07	6-13*
Area 3, Subarea 3 (northwestern segment)	4-11		
Area 4, Electrical transmission line, western portion			
Area 4, Subarea 1 (western segment)	4-08		
Area 4, Subarea 2 (eastern segment)	4-08	5-07	6-13*
Area 5, Electrical transmission line, eastern portion			
Area 5, Subarea 1 (northernmost segment)	4-10	5-07	6-13*
Area 5, Subarea 2 (north of Worden Road)	4-10		
Area 5, Subarea 3 (south of Worden Road)	4-11		
Area 5, Subarea 4 (south segment)	4-11	5-08	6-13*
Area 5, Subarea 5 (interconnect segment)	4-11	5-08	6-13*
Area 6, Natural gas pipeline route, eastern portion			
Area 6, Subarea 1 (easternmost segment, tap site)	4-09	5-07	6-13*
Area 6, Subarea 2 (Simplot grazed lands-east)	4-09, 4-10	5-07	6-13
Area 6, Subarea 3 (Simplot grazed lands-west)	4-09	5-07	
Area 6, Subarea 4 (Worden Farms east)	4-09	5-08	
Area 6, Subarea 5 (Worden Farms central)	4-09		
Area 6, Subarea 6 (Worden Farms west)	4-09	5-08	
Area 6, Subarea 7 (intersect with transmission line ROW)	4-10		

* These sites walked through during botanical surveys
** Incidental sightings and surveys